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1934/35

DOMINION OF CANADA

DEPARTMENT OF THE INTERIOR

Hon. Thomas G. Murphy, Minister — R. A. Gibson, Assistant Deputy Minister
F. H. Peters, Surveyor General and Director, Topographical and Air Survey Bureau

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ANNUAL REPORT

OF THE

TOPOGRAPHICAL AND AIR SURVEY BUREAU

FOR THE

FISCAL YEAR ENDED MARCH 31, 1935

OTTAWA
J. O. PATENAUDE, I.S.O.
PRINTER TO THE KING'S MOST EXCELLENT MAJESTY
1935

#98
The Director's Office
SURVEYS & MAPPING BRANCH
MAR 21 1956
Dep't. of Lands & Forests
VICTORIA, B. C.

TOPOGRAPHICAL AND AIR SURVEY BUREAU

REPORT OF THE DIRECTOR AND SURVEYOR GENERAL, F. H. PETERS

General Statement

Most of the field work carried on by the Topographical and Air Survey Bureau in the fiscal year 1934-35 was for the purpose of completing the mapping of areas where the work had been partially done in previous years. In the Northwest Territories and in the newly discovered gold-fields of western Ontario, some new work was commenced for the purpose of assisting in opening up mineralized areas to the prospecting and development of new wealth. The details of the work which was carried on in six provinces, in the Northwest Territories, and in Yukon Territory are given under the various divisions of the Bureau.

Co-operation was maintained with the Royal Canadian Air Force and with the various provincial survey organizations. Several large areas were photographed from the air besides a number of smaller operations. These photographs are filed in the photographic library for reference purposes by any governmental or private organizations requiring the information to be obtained from them. New map sheets showing the areas are being plotted as rapidly as the staff can handle the work.

It would be difficult to overstate the value of maps as a factor in the development of any country, especially of one that is so rich in natural resources as Canada. Ever since the first few maps of the National Topographic series were published, the department has received so many requests from other departments and from provincial departments, corporations, boards of trade, and other organizations for the mapping of new areas that it has been quite impracticable to comply with them all. During the past few years requests for additional mapping have accumulated. Under such circumstances priority is given to mapping those areas which give the greatest promise of immediate development, and there is always more work in prospect than can be accomplished with funds available.

When it is realized that the area of Canada is nearly 3,700,000 square miles and that less than 20 per cent of this area has been mapped with any degree of detail it will be seen that an enormous area still remains to be surveyed for mapping purposes. Much of this area is forested and broken by many water features, thus being difficult to survey by ground methods. However, by utilizing air photographs and a minimum of ground control the field work is greatly simplified and maps sufficiently accurate for the present are being made and are filling a valuable purpose in opening up the country to explorers, foresters, prospectors, engineers, and sportsmen. The production of these maps is a national undertaking of great importance.

During recent years there has been an intensive search for new mineral deposits, especially of the precious metals. Naturally this has had an effect on the demand for maps published and distributed by the Survey Bureau. From a distribution in 1931-32 of 38,822 maps the number has increased steadily each year to over 90,000 in the year covered by this report.

7800—1½

Topographical Mapping

Field Work.—Detailed topographical mapping with the aid of vertical air photographs was completed on the New Westminster, Fraser Delta, and Burrard one-mile map sheets of the National Topographic series. The air photography was done in 1930 by the Royal Canadian Air Force and the necessary ground surveys to serve as control for the topography were also completed in the same year. In the field the topography was obtained and contours at twenty-five feet intervals were plotted directly on the air photographs used as plane-table sheets. These three map sheets include the cities of Vancouver, New Westminster, and North Vancouver and the municipalities of Burnaby and West Vancouver, as well as the closely settled valley and delta of the Fraser river.

On the Fort Coulonge two-mile sheet, No. 31-G/N.E., the field interpretation of natural and cultural details was completed and sufficient elevation points established to control the approximate contouring. Similar information was obtained for the Newcastle, No. 21-I/N.W., Sunnybrae, No. 11-E/S.E., and Bridgewater, No. 21-A/S.E., two-mile sheets. Vertical control for approximate contouring was obtained for the Buckingham sheet, No. 31-G/N.W., and the interpretation of natural and cultural features was completed for the Ste. Agathe sheet, No. 31-J/S.E.

The approximate contouring of map sheets from vertical air photographs is a new departure by this survey. It was first tried on the Mont-Laurier and Lachute two-mile sheets, both of which include areas of considerable relief, which are mostly wooded and not very thickly populated. To establish a sufficient number of level control points to enable such areas to be accurately contoured would be very expensive. On the other hand, by a system of barometric levels and angular measurements, level control points of sufficient accuracy and density for approximate contouring with stereoscopic examination may be established with comparatively little cost. The approximate contours on the Lachute sheet were examined in the field this season and, considering the character of the country, and the scale of the map, are quite adequate for the time being.

Office Work.—Instructions were prepared for the field work described above and the results are now being compiled in map form. Other map compilations are being proceeded with and, in all, 72 different maps are in various stages of preparation.

Among the newer maps being compiled are some of the eight-mile sheets of the National Topographic series. These it is intended to issue in two editions —one as a topographical map and the other as an air edition with special features overprinted for air navigation. These maps will be completely new compilations including the most up-to-date information obtainable and corrected to conform to the latest geographic positions. Where new and accurate maps are available, the compilation is comparatively simple, but where no such maps are available, and this is the case over a large percentage of the area covered, existing plans, sometimes inaccurate, have to be adjusted to fit all the accurately known points. This entails a large amount of work and the handling of many plans.

Four of these eight-mile maps are at present in hand in this division and a fifth has now been compiled and drawn.

During the year the usual number of place-names have been investigated and, where the names were new, duplicated, or contentious, submissions were made to the Geographic Board of Canada for a ruling.

The field notes for one hundred and forty-five miles of secondary spirit levels, laid down in connection with the vertical control of the Sunnybrae map sheet in Nova Scotia, were examined, adjusted, and the elevations of thirty-nine permanent survey monuments determined and tabulated. It has been the custom of this survey, in laying down secondary spirit level control for mapping in the Maritime Provinces, Quebec, and Ontario, to determine the

elevations of fairly permanent bench marks. This policy has to date been effective in spreading levels of fair accuracy over some 27,000 square miles. The bench marks thus established are now serving a very useful purpose in connection with road surveys, power developments, water-level control, and other engineering projects.

Air Surveys

During the year 58,800 square miles of new territory were photographed from the air by the Royal Canadian Air Force acting in co-operation with this bureau, which prepared the technical instructions. Of this area, 3,800 square miles were covered by vertical photography and 55,000 square miles by oblique photography.

The vertical photography included several areas mostly in Eastern Canada. A two-mile map sheet, No. 31-D/N.E., north of Peterborough, Ontario, was photographed preparatory to issuing a new map of this district which is so popular with tourists and which contains so many storage basins for industrial water supply. Special areas were photographed on account of mining activity in the vicinity of Long Lac, Ontario; near the Ontario-Manitoba boundary in southeastern Manitoba; and in the Nahanni River district in the Northwest Territories. Some photography was carried out along the shoreline of the bay of Chaleur in Quebec and New Brunswick for the Hydrographic Survey, Department of Marine, and other work was performed in the Chibougamau area in Quebec for the Geological Survey of Canada, Department of Mines.

Oblique photography for mapping and general reconnaissance purposes was extended over a large area from Rae northerly to Great Bear lake and over another area lying southeast of Great Slave lake, as well as several flights over the North Nahanni River district, all in the Northwest Territories. One 4-mile map sheet, No. 42-E, including the Long Lac mineralized area, and another sheet, No. 53-K, lying east of Gods lake, both in Ontario, were partially photographed. The Chibougamau 4-mile sheet, No. 32-G, in Quebec, was also partially photographed. All these areas are of considerable interest on account of prospecting activities therein. The west shore of James bay was photographed for the Hydrographic Survey and an extensive area, comprising parts of three 4-mile map sheets astride the Eastmain river, was photographed for the Geological Survey of Canada. A few other small operations were also carried out during the season for specific purposes.

Co-operating with these flying operations, field officers from the bureau were detailed to obtain astronomical observations for latitude and longitude and make ground measurements at various selected points within the photographed areas in order to fix the location and determine the scale of the photographs.

As a result of these photographic operations 22,328 photographs were received, indexed, and filed in the National Photographic Library, where they are available for examination by any interested parties. In this connection it may be pointed out that these photographs are not only useful for mapping purposes, but also show all the surface cover and features of the country and contain information valuable to the geologist, mineralogist, forester, hydro-electric engineer, railway or highway engineer, as well as to the tourist, sportsman, summer camper, and others. Increasing use is being made of the facilities provided by the photographic library.

During the season of 1934 all oblique mapping photography was obtained by the simultaneous exposures of three cameras set in fixed positions in cabin aircraft. The oblique field of view over the track of the aircraft was obtained through an opening in the floor of the fuselage. The field of view of the side cameras to the right and left of that covered by the central camera, which they overlapped slightly, was obtained through the side windows. To effect the

desired setting of the three cameras relative to each other and to the aircraft when in "flying trim," the aircraft was established in the "flying trim" position on the ground. Targets were set out in the horizontal planes of the three camera lenses in the direction of the fore-and-aft axis of the aircraft and in desired directions relative thereto. For each camera a plot of the target positions within its field of view was made on transparent material showing the targets in their desired positions in a photograph. The camera body was then moved and adjusted until the imaged targets coincided with their plotted positions. The camera was then locked in this position by drilling three holes through the mount in which sliding bolts were housed. Throughout the season the cameras of each aircraft occupied their fixed position and simultaneous exposures of the set of cameras were made at intervals of three miles along parallel flights usually spaced at eight miles apart, oblique photography being carried out at altitudes of 8,000 feet above the ground. Panchromatic supersensitized film with yellow filter (factor 4) was used throughout the season in each camera. The changes introduced resulted in a marked improvement in the quality of the photography and navigation and in the economy of operation.

Infra-Red Air Photography.—Some experimental exposures were made of recently developed infra-red sensitive air film to ascertain if its use in air photographic mapping work would result in an improvement over the panchromatic film now in general use. To obtain comparisons, infra-red and supersensitive panchromatic films were exposed simultaneously in cameras held in the oblique multi-camera mount. The infra-red views obtained, although promising, were somewhat under-exposed towards the limits of the photograph and were generally considered inferior for air mapping use to those obtained with the panchromatic film.

Special Surveys

Control Surveys.—During the year control for mapping from air photographs was provided by traverse surveys and astronomical observations.

In Nova Scotia the area covered by Map Sheet 11-E/S.E. of the National Topographic Series had already been covered by vertical air photographs, and control was necessary to compile a map from them. Existing control consisted of two triangulation stations of the Geodetic Survey of Canada within the borders of the sheet, and control traverses close to the borders which had been run by this survey and the Department of National Defence for the purpose of mapping contiguous map sheets. Additional control was necessary and this was supplied during the season by extending a chained traverse survey through the middle of the area to be mapped. In accordance with the usual practice of the branch, spirit levels were run in conjunction with the traverse survey, which levels were connected to the precise level network of the Geodetic Survey; and permanent monuments and bench marks were established at frequent intervals, the geographic positions and elevations of which are now available as a base for future surveys and engineering projects. A total of 122 miles of road was traversed, 150 miles of spirit-levels run, and 39 permanent monuments and bench marks established.

In the Northwest Territories a stadia traverse control was established, starting from a point on Hardisty lake and carried northerly to Cameron Bay on Great Bear lake, and then westerly along the shores of Great Bear lake to a junction with earlier traverses. The commencing point of this year's survey was from a permanent monument of the Great Slave Lake survey system established by this survey in 1926. The terminal point was a permanent monument of the Great Bear Lake survey system established by this survey in 1923. Thus was completed a closed circuit of stadia traverse commenced as far back as 1919, and comprising surveys of Great Slave lake, the canoe route northerly from the north arm of this lake to Great Bear lake, 230 miles of the shoreline

of Great Bear lake, Great Bear river, and the Mackenzie river. It is worthy of notice that long before the recent mining activities in the Great Bear Lake and the Great Slave Lake areas were thought of, this survey had planned a well-considered scheme of general control for mapping operations. In accordance with the usual practice this traverse was perpetuated by permanent monuments established at suitable intervals, the geographic positions of which are now available for future use. A total of 355 miles of stadia traverse was completed, and 57 permanent monuments established.

Astronomical observations were taken in the Northwest Territories at three points, and in western Ontario at two points, in order to supplement existing control for mapping from oblique air photographs.

Astronomical Work.—The mathematical investigations and study of instrumental equipment necessary to decide upon the methods of observing to be used by field parties taking astronomical observations for latitude and longitude, and their proper instrumental equipment, were made during the year. This work also necessitates the preparation of observing lists which will tell the observer in the field what stars he can observe upon, the exact direction at which he must point his instrument for each star, and the exact time at which the star will appear in the field of his telescope. This information is very necessary to him in the field, because his observing time is very limited, and it is essential that this limited time be used as efficiently as possible. It is interesting to note that during the short summer season in the Northwest Territories daylight extends during the twenty-four hours of each day, so that the observer may be compelled to make all of his observations on stars not visible to the naked eye. This factor has an important bearing on the design of instrumental equipment which must be provided for this work, and on the methods of observation which may be adopted.

During the year a Manual of Instructions was issued covering the instruments and methods employed by this survey for determining astronomic latitudes and longitudes in order to provide ground control for plotting oblique air photographs of unexplored territory. The methods of observation used are described fully, particularly the fixed altitude method and the prismatic astrolabe specially designed by the British Admiralty for this particular method of determining latitude and longitude.

Computations.—The computational work of this division includes the preparation and publishing of the usual astronomical field tables which are widely distributed to surveyors throughout Canada, the preparation of special observing lists, the reduction of field astronomical observations for latitude and longitude, and the reduction of field traverses.

Electoral Maps.—During the year the work of preparing electoral maps based upon the Representation Act, 1933, was completed. This series consists of a map of each province which shows on a suitable scale the boundaries of the Federal electoral districts in the province, and a separate map for each of the 243 electoral districts. Besides these two series, prints have been prepared from city maps showing the electoral district boundaries in the cities of Montreal, Toronto, Calgary, and Vancouver.

The distribution of the electoral maps has also been handled from the division. Up to March 31, 1935, some thirty-five thousand blue line prints of the above maps have been prepared, about twenty-five thousand of which have been distributed.

Legal Surveys

It is interesting to note the increasing activity in mineral claim surveys in the Northwest Territories. In 1932 there were 127 claims surveyed; in 1933 the number was 134; and in 1934 there were four surveyors in the field, who requested

instructions for the survey of 235 quartz mining claims, and one coal claim, the latter being situated near the southwesterly part of Great Bear lake. During the removal of the Mining Recorder's Office from Fort Smith to Cameron Bay, all the information regarding these and the adjoining claims was procured from the copies of the records in Ottawa and furnished to the surveyor with his instructions.

Instead of the surveys all being grouped in the vicinity of Echo bay as in the past, in the past year they were grouped as follows: 30 at the south end of Hottah lake; 31 near White Eagle falls on Camsell river; 139 near Echo bay; 12 near Lindsley bay, and 23 at Sloan river near Hunter bay. Owing to the practice of preparing the returns of survey in the winter after returning from the field only a part of these survey returns had been received in the department at the end of the fiscal year. In so far as they have been received they are found to be carefully prepared.

While the prescribed area of a mineral claim is 51·65 acres, that is 1,500 feet square, the maximum area which may be included in any claim without deduction is 60 acres. If on survey the margin of error is found to exceed this allowance, the area in excess of 51·65 acres can be disposed of under the provisions of the Quartz Mining Regulations, in the discretion of the Minister, the staker being given the first chance, subject to certain prescribed penalties. The tendency on the part of some licensed miners to include in claims areas substantially in excess of the theoretical area, if persisted in, may make it necessary for the department to consider whether the penalties prescribed are severe enough.

A new adaptation of the vertical air photograph has been made in checking the correctness of marginal claims. By bringing the photograph to the scale of the plan compilation it is possible not only to check the accuracy of the surveyor's traverse of water areas but also to determine whether an angle of the claim witnessed by the surveyor as falling in the water may actually fall upon an island or be on land on the opposite side of the lake. Two cases of this kind occurred last season, one of which was first detected by the surveyor's traverses after leaving the field, and the other by the use of the photographs. Where vertical photographs exist it is proposed, in future, to furnish the position and shape of water areas to the surveyor with his instructions so that he may be able to detect a possible error of this kind before leaving the field.

Owing to the low price of silver there has been little activity in the survey of silver claims in Yukon Territory, but the increased price of gold has turned the attention of miners to placer gold, necessitating the resurvey of base lines that govern the placer claims. In addition to the Bonanza Creek base line resurveyed last year, a portion of the base line of Indian river was resurveyed this year. The returns of survey of three surface lots were received. The discovery of gold in place in the vicinity of mount Freegold in an unglaciated part of the Yukon Territory has stimulated interest in quartz claims with prospects of further surveys during the coming season.

The survey of the Duck Mountain Forestry Experimental Area, which was in progress at the beginning of the fiscal year, was completed in the early spring. Notwithstanding the very deep snow and other difficulties, the closings of the exterior boundaries were exceptionally good. A new style of survey post was provided by the Province of Manitoba for this survey. It consisted of a piece of iron piping $1\frac{3}{4}$ inches in diameter by 48 inches long with open ends, which was driven into the frozen earth to within 5 inches of the top. The mushroomed top of the post was then filled with Portland cement and the shank of a bronze rock-post was imbedded in the cement.

At the request of the Penitentiaries Branch of the Department of Justice, the Topographical and Air Survey Bureau has undertaken the survey of the several penitentiary reserves in the Dominion. The lands comprising these reserves have been acquired by purchase from time to time, the original titles in the case of reserves in the older provinces dating back more than a hundred years

in some cases. The descriptions in the older documents, especially, require the most careful study to ascertain exactly what terrain was covered. After an examination of the documents relating to the Kingston and Collins Bay penitentiaries in Ontario, and the St. Vincent de Paul penitentiary in Quebec, the purpose of the survey has been thus defined: to trace out the exterior boundaries and erect monuments at suitable points showing the limits of each reserve; to contour the area and locate important features such as waterways and roads; to furnish plans on a scale of 400 feet to an inch showing lots, roads, and legal subdivisions; and to furnish a description by metes and bounds of the exterior boundary and to give the total area.

The surveys of the Kingston and Collins Bay reserves were undertaken last season, and the necessary plans and description of the Kingston reserve have been completed. The completion of the Collins Bay plan is deferred pending more information regarding one of the boundaries of one parcel. A careful study has been made of the deeds and other papers relating to the St. Vincent de Paul reserve in Quebec and the survey will be undertaken in 1935.

A great deal of material was compiled for Dominion counsel in connection with the Saskatchewan and Alberta Resources Commissions. Some of the information required could be had from no other source than the Topographical and Air Survey Bureau as it involved an examination of the diaries of the surveyors who had carried out the subdivision of the Prairie Provinces.

Similarly in connection with the work of preparing material respecting the claims of Maritime Provinces regarding the disposal of Crown Lands by the Dominion, it was necessary to study the history of the various extensions of the northerly boundaries of the provinces of Ontario and Quebec, in order to prepare sets of maps depicting the changes made from time to time. Similar information had to be secured regarding the formation and extension of the newer provinces.

New plans were compiled for the subdivisions of summer resort and business lots in Prince Albert National Park, and a new plan of Fort Smith Settlement within the Northwest Territories was prepared showing the survey of the Sixtieth parallel of latitude in so far as it affects the settlement.

Numerous inquiries from the western provinces relating to the surveys of lands made by the Dominion were attended to, and information furnished as in the past.

Survey Records and Distribution Division

This division has charge of the largest and most important registration and recording office of its kind in the Dominion of Canada. The first plans and books were placed on official record in 1872 and up to the end of the present fiscal year 21,809 books and 38,903 plans had been placed on record.

Part of the duty in connection with this work is the dealing with technical correspondence relating to surveys, survey records, and official plans. These requests are received from various branches of the Federal and Provincial governments, surveyors and engineers, law firms, and the general public. Answering these inquiries involves not only the searching of the surveyors' field notes and files but, in many cases, the supplying of copies of the notes and plans. When required for the law courts the copies of the notes and plans are officially certified. The number of copies of official plans of townships, townsites, and settlements distributed during the twelve months was 2,728.

The various maps, reports, and technical pamphlets were distributed throughout the year as usual. This division now distributes not only all the plans and reports and the topographical and geographical maps issued by this Survey Bureau but also the maps issued by the Geographical Section, Department of National Defence, and the maps which were issued by what was formerly the National Development Bureau of this department. There are now available for distribution from this office about 1,000 different maps, about 100 reports and pamphlets, and about 7,000 official plans of the various townships, townsites, and settle-

ments. A price has been set on all of these maps and official plans and on all of the reports and pamphlets, except certain technical publications intended only for technical officers of the government, surveyors, engineers, and scientific organizations. During the past year there were distributed 90,207 maps and 3,954 copies of publications.

The demand for maps is continually increasing, the number distributed during the past year showing an increase of 29·4 per cent over the previous year. Among those requesting maps were departments of the Federal and Provincial governments; universities, schools, and libraries; tourists and travellers; lumber and pulp and paper companies; railway and transportation companies; engineering firms and surveyors; mining companies and prospectors; flying companies and aviators; commercial firms of all kinds, and the general public.

An increasing number of requests are coming from residents of other countries who desire to spend their vacation in Canada, hunting, fishing, taking canoe trips, and so forth. Many of those who merely wish to take an automobile trip are satisfied with the ordinary tourist road maps but for those who wish to hunt, fish, and explore new regions a detailed map is a necessity. In fact unless they can secure a good detailed map many will not come. This is very well illustrated in connection with the Quetico Park area in northwestern Ontario. Since the issue of the new maps of the National Topographic series of that area the number of inquiries received has increased about twenty times.

Other districts for which there has been a very large demand for maps are the Muskoka and Algonquin Park area and that part of the Laurentian district north of Ottawa. The greater parts of both of these areas have recently been covered by new maps of the National Topographic series on a scale of two miles to an inch, and additional maps are now in course of preparation.

For the benefit of potential tourists to Canada from the United States travelling by automobile, the publication of a new and improved edition of a sectional map showing main highways between the two countries was undertaken, in co-operation with the Tourist Division of the National Parks of Canada and also with the Canadian Travel Bureau of the Department of Railways and Canals.

The map is in three sections and shows the main roads in Canada, and connecting highways within the adjoining states. The eastern sheet extends in Canada from the most easterly part of Cape Breton island, Nova Scotia, to as far west as Windsor and Sault Ste. Marie, Ontario. The central sheet covers the area extending from those two localities to the eastern part of Alberta, while the western sheet includes both Alberta and British Columbia. The three sections are on a uniform scale of forty miles to one inch, and measure about 36 inches by 26 inches, when unfolded. In addition to main roads they show routes of special interest to those contemplating a visit to Canada, such routes being emphasized and indicated by route numbers.

The maps are lithographed in several colours, to show each province distinctly. The boundaries between each state are also indicated clearly, while all national and provincial parks in Canada appear prominently. A new and useful feature of the series is a sketch on the back of each map, showing the location of historic sites within the area covered, while historical information on each site is also provided. A short description of the outstanding features of each of the national and provincial parks, together with a summary of the chief attractions of Canada to the tourist, and the procedure necessary on entering the country are also given.

In addition to these three sheets on a scale of forty miles to one inch, a road map on a scale of one hundred miles to one inch is in progress. The purpose of this map is to show, in one sheet form, the main roads from coast to coast in Canada and the United States, along somewhat similar lines to the larger scale series but with less detail. It will give a compact idea of existing highway facilities and prove useful for general reference purposes to those planning a coast to coast tour.

The drafting, photo-lithographic, and typographic work entailed in preparing the four maps is considerable, while the actual printing by lithography necessitates separate press runs for each of the colours used, and care to ensure proper registration. However, a marked saving in the previous cost of the maps will be effected and all of the work entailed in their production will be carried on within the department.

Reference Map Library.—One copy of each new map published by the survey is preserved as a permanent record in the record office. In addition, one copy is put in the map library which is maintained for reference purposes and is kept as up to date as possible by the addition of all new maps published in Canada, as well as a certain number of maps of other countries. This map library contains copies of approximately 3,000 different maps, many of which are no longer obtainable. It preserves a record of the mapping activities of the various Dominion mapping agencies and illustrates the development of the country from fairly early pioneer days.

Board of Examiners for Dominion Land Surveyors

The Board of Examiners for Dominion Land Surveyors held two meetings during the year. The first was a special meeting lasting from Monday, April 30, 1934, to Friday, June 1, 1934, during which examinations were held at Ottawa, Winnipeg, Saskatoon, and Edmonton. The second was the regular annual meeting called for by section 9 of the Dominion Lands Surveys Act. It began on Monday, February 11, 1935, and lasted until Thursday, March 14, 1935, inclusive. During this meeting examinations were held at Kingston, Prince Albert, Edmonton, and Vancouver.

The total number of candidates who presented themselves at the examinations was 32. Of these, 24 tried the preliminary examination, 6 tried the final examination, and 2 tried the examination for levellers.

Ten candidates were successful at the preliminary examination as follows:—

H. F. G. Boswell,	W. G. Gold,	S. Slater,
D. A. Cruikshank,	W. J. MacIvor,	J. W. D. Symons.
D. W. Cunnington,	E. C. Mayhew,	
T. R. Gemmell,	W. P. Moffat,	

Five candidates were successful at the final examination as follows: R. W. Clark, R. M. Hardy, C. W. Lester, R. Meikle, J. Mould.

One candidate was successful at the levellers' examination, namely: F. G. Green.

Two Dominion Standard Measures of Length were issued during the year.

Map Publication

The statement which follows, showing the list of maps issued during the year and in course of preparation, is indicative of the work of the Map Publication Division, since some work was done in the division on most of the maps listed.

It will be noted that several maps are in course of preparation on the scale of eight miles to one inch. These are sheets of the National Topographic series and are to replace maps of the Standard Geographic series, the two series not being conformable in size or shape. Eventually the National Topographic series will replace all the other sheets.

Of the maps published, Lachute and Mont-Laurier show approximate contours which were drawn by stereoscopic study of the air photographs from which the other details of the maps were compiled. This approximate contouring on these two sheets is a new departure and was done more or less as an experiment.

Both sheets include sparsely populated areas with considerable relief and it was felt that this relief, visible in the air photographs under the stereoscope, should be represented on the maps in some manner.

On the Lachute sheet a certain number of elevations were available from control levels already laid down. These were supplemented by aneroid barometer levels over the remainder of the roads and for some of the main water features. Using the elevation points thus established, the contours were drawn in by stereoscopic examination. As this is a favourite tourist district the added information is much appreciated by those using the maps.

On the Mont-Laurier sheet elevations supplementary to the existing level control were established by aneroid barometers carried in seaplanes which landed on lakes or flew close above hills, divides, and other distinguishable features. The resulting level controls were fewer and more scattered than on the Lachute sheet and the contours are accordingly less accurate. Nevertheless, the addition of these approximate contours on both these sheets is a great improvement over maps of similar territory issued without contours or other indications of relief. The correct positions of hills and valleys with an approximation of their elevations is indicated and this, in a hilly country, is very valuable information.

This office has the custody of a large number of copperplate engravings of base maps of various parts of Canada. These base maps are being utilized wherever possible in the compilation of maps produced by the bureau.

Each year more work is being done for other branches of the department and for other departments. This work ranges from making corrections to existing maps; reproduction of drawings, tracings, and maps, by the wet plate photographic process; making of line and half-tone engravings; preparing vandyke and bromide prints; and printing maps, charts, and diagrams from zinc plates.

The blue printing and photostat plant is engaged in making copies of plans, tracings, statements, documents, charts, press clippings, and so forth for all the branches of the Department of the Interior and for a number of other departments.

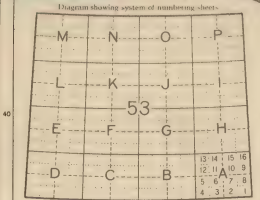
A new camera copy-board was built and installed at the close of the year. This equipment completes the new camera which replaces a smaller camera which had been in use for many years.

The detailed statement of the work performed by the Photo-Mechanical plant includes 1,927 wet plate negatives; 327 photo-litho plates; 180 line and half-tone engravings; 7 intaglio plates; 533 plotting grids; 2,396 enlargements and prints; 2,945 vandyke prints from negatives; 7,865 sheets of photostat printing; 202,978 sq. ft. of blue printing; 365 sq. ft. of blue printing on linen; 6,769 sq. ft. of vandyke printing.

TOPOGRAPHICAL AND AIR SURVEY BUREAU
DEPARTMENT OF THE INTERIOR

INDEX TO MAP SHEETS OF
THE NATIONAL TOPOGRAPHIC SERIES

NOTE: The index shows maps, based on accurate survey, published to date at scales of one and two (solid green) and four (green ruling) miles to the inch; including those issued by the Geographical Section General Staff, Department of National Defence.



Every numbered unit in the main index is subdivided the same as the above, which for clearness is shown on a scale larger than the map above

Scale of miles
100 50 0 100 200 300 400

COMPILED, DRAWN AND PRINTED AT THE OFFICE OF THE SURVEYOR GENERAL, OTTAWA.

LIST OF MAP SHEETS OF THE NATIONAL TOPOGRAPHIC SERIES AND OF THE SECTIONAL SERIES ISSUED 1934-35, AND IN HAND ON MARCH 31, 1935

Issued 1934-35

Prov.	No.	Series	Name	Scale (miles to 1 inch)	Latitude	Longitude	Remarks
N.B.....	21-H/SW	N.T..	St. Martins.....	2	45° 00′ to 45° 30′	65° 00′ to 66° 00′	*(b)*
Que.....	31-G/NE	N.T..	Lachute.....	2	45° 30′ to 46° 00′	74° 00′ to 75° 00′	*(a)* approx. contours.
	31-J/NW	N.T..	Mont-Laurier.....	2	46° 30′ to 47° 00′	75° 00′ to 76° 00′	*(a)* "
	32-D/SW	N.T..	Rouyn-Larder Lake	2	48° 00′ to 48° 30′	79° 00′ to 80° 00′	*(b)* reprint
Ont.....	31-E/NE	N.T..	Algonquin.....	2	45° 30′ to 46° 00′	78° 00′ to 79° 00′	*(b)*
	31-L/SW	N.T..	North Bay.....	2	46° 00′ to 46° 30′	79° 00′ to 80° 00′	*(b)*
	42-I/SW	N.T..	Coral Rapids.....	2	50° 00′ to 50° 30′	81° 00′ to 82° 00′	*(b)*
	52-B	N.T..	Quetico.....	4	48° 00′ to 49° 00′	90° 00′ to 92° 00′	*(b)* reprint
	52-I	N.T..	Armstrong.....	4	50° 00′ to 51° 00′	88° 00′ to 90° 00′	*(b)* reprint
	52-NW	N.T..	English River.....	8	50° 00′ to 52° 00′	92° 00′ to 96° 00′	*(b)*
Man.....	71	Sect..	Virden.....	3	49° 43′ to 50° 25′	100° 03′ to 102° 00′	*(d)* reprint
	121	"	Riding Mountain....	3	50° 25′ to 51° 07′	100° 04′ to 102° 00′	*(f)* reprint
	122	"	Manitoba House....	3	50° 25′ to 51° 07′	98° 00′ to 100° 07′	*(f)* reprint
	171	"	Duck Mountain.....	3	51° 07′ to 51° 48′	100° 07′ to 102° 00′	*(f)* reprint
	172	"	Fairford.....	3	51° 07′ to 51° 48′	98° 01′ to 100° 09′	*(f)* reprint
Sask.....	63-L	N.T..	Amisk Lake.....	4	54° 00′ to 55° 00′	102° 00′ to 104° 00′	*(b)*
	17	Sect..	Cypress.....	3	49° 00′ to 49° 42′	108° 00′ to 110° 00′	*(f)* reprint
Alta.....	16	"	Milk River.....	3	49° 00′ to 49° 42′	110° 00′ to 112° 02′	*(f)* reprint
	313	"	Brûlé.....	3	53° 11′ to 53° 54′	116° 02′ to 118° 00′	*(f)* reprint
	315	"	Edmonton.....	3	53° 11′ to 53° 54′	113° 03′ to 114° 00′	*(d)* reprint
	363	"	Berland.....	3	53° 53′ to 54° 36′	116° 04′ to 118° 00′	*(f)* reprint
B.C.....	82-I/NW	N.T..	Shuswap.....	2	50° 30′ to 51° 00′	119° 00′ to 120° 00′	*(a)*
N.W.T..	55-K,L	N.T..	Ferguson River-Rankin Inlet.....	4	62° 00′ to 63° 00′	92° 00′ to 96° 00′	*(c)*

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P.E.I....	S½-11/NW N½-11/SW	N.T..	Charlottetown-Sydney.....	8	45° 00′ to 47° 00′	60° 00′ to 64° 00′	*(b)*
N.S.....	21-H/16	N.T..	Amherst.....	1	45° 45′ to 46° 00′	64° 00′ to 64° 30′	*(a)*
	11-E/SE	N.T..	Sunnybrae.....	2	45° 00′ to 45° 30′	62° 00′ to 63° 00′	*(b)*
	21-A/NE	N.T..	Chester.....	2	44° 30′ to 45° 00′	64° 00′ to 65° 00′	*(b)*
	21-A/SE	N.T..	Bridgewater.....	2	44° 00′ to 44° 30′	64° 00′ to 65° 00′	*(b)*
N.B.....	21-I/SW	N.T..	Chipman.....	2	46° 00′ to 46° 30′	65° 00′ to 66° 00′	*(b)*
	21-I/NW	N.T..	Newcastle.....	2	43° 30′ to 47° 00′	65° 00′ to 66° 00′	*(b)*
	21-O/NE N½-21SE	N.T..	Campbellton.....	2	47° 30′ to 48° 00′	66° 00′ to 67° 00′	*(b)*
	S½-21/NE	N.T..	Fredericton-Moncton.....	8	45° 00′ to 47° 00′	64° 00′ to 68° 00′	*(b)*
Que.....	31-F/NE	N.T..	Fort Coulonge.....	2	45° 30′ to 46° 00′	76° 00′ to 77° 00′	*(a)*
	31-I/NE	N.T..	Grand Mere.....	2	46° 30′ to 47° 00′	72° 00′ to 73° 00′	*(b)*
	31-J/SE	N.T..	Ste. Agathe.....	2	46° 00′ to 46° 30′	74° 00′ to 75° 00′	*(b)*
	31-N/NE	N.T..	Vimy.....	2	47° 30′ to 48° 00′	76° 00′ to 77° 00′	*(b)*
	31-O/NW	N.T.	Choquette.....	2	47° 30′ to 48° 00′	75° 00′ to 76° 00′	*(b)*
	32-B/SW	N.T..	Oskelaneo.....	2	48° 00′ to 48° 30′	75° 00′ to 76° 00′	*(b)*
	32-C/SE	N.T..	Doucet.....	2	48° 00′ to 48° 30′	76° 00′ to 77° 00′	*(b)*
	32-B	N.T..	Gouin Reservoir....	4	48° 00′ to 49° 00′	74° 00′ to 76° 00′	*(b)*
	32-F	N.T..	Waswanipi.....	4	49° 00′ to 50° 00′	76° 00′ to 78° 00′	*(b)*
	32-G	N.T..	Chibougamau.....	4	49° 00′ to 50° 00′	74° 00′ to 76° 00′	*(b)*
	21-NW	N.T..	Quebec-Edmundston.....	8	46° 00′ to 48° 00′	68° 00′ to 72° 00′	*(a)*
	31-NW	N.T..	Upper Ottawa River.....	8	46° 00′ to 48° 00′	76° 00′ to 80° 00′	*(b)*
Ont.....	31-F/7	N.T..	Renfrew.....	1	45° 15′ to 45° 30′	76° 30′ to 77° 00′	*(a)*
	31-L/13	N.T..	Timagami.....	1	46° 45′ to 47° 00′	79° 30′ to 80° 00′	*(a)*
	42-I/NW	N.T..	Blacksmith Rapids.	2	50° 30′ to 51° 00′	81° 00′ to 82° 00′	*(b)*
	52-A/SW	N.T..	Fort William-Port Arthur.....	2	48° 00′ to 48° 30′	89° 00′ to 90° 00′	*(b)*
	52-A/NE	N.T..	Black Bay.....	2	48° 30′ to 49° 00′	88° 00′ to 89° 00′	*(b)*
	52-A/NW	N.T..	Kaministikwia.....	2	48° 30′ to 49° 00′	89° 00′ to 90° 00′	*(b)*
	42-E	N.T.	Long Lac.....	4	49° 00′ to 50° 00′	86° 00′ to 88° 00′	*(b)*
	52-H	N.T..	Nipigon.....	4	49° 00′ to 50° 00′	88° 00′ to 90° 00′	*(b)*
	31-SW	N.T..	Toronto-Ottawa.....	8	44° 00′ to 46° 00′	76° 00′ to 80° 00′	*(b)*
	52-NE	N.T..	Sioux Lookout-Armstrong.....	8	50° 00′ to 52° 00′	88° 00′ to 92° 00′	*(b)*
	52-SW	N.T..	Kenora-Ft. Frances.	8	48° 00′ to 50° 00′	92° 00′ to 96° 00′	*(b)*

LIST OF MAP SHEETS OF THE NATIONAL TOPOGRAPHIC SERIES AND OF THE SECTIONAL SERIES ISSUED 1934-35, AND IN HAND ON MARCH 31, 1935—*Concluded*

IN HAND MARCH 31, 1935—*Concluded*

Prov.	No.	Series	Name	Scale (miles to 1 inch)	Latitude	Longitude	Remarks
Man.....	62-J	N.T..	Neepawa.....	4	50° 00′ to 51° 00′	98° 00′ to 100° 00′	*(b)*
	62-O	N.T..	Gypsumville.....	4	51° 00′ to 52° 00′	98° 00′ to 100° 00′	*(b)*
	63-C	N.T..	Swan River.....	4	52° 00′ to 53° 00′	100° 00′ to 102° 00′	*(b)*
Sask.....	64-E	N.T..	Reindeer Lake North.....	4	57° 00′ to 58° 00′	102° 00′ to 104° 00	*(b)*
	64-L	N.T..	Wollaston Lake.....	4	58° 00′ to 59° 00′	102° 00′ to 104° 00′	*(b)*
	74-N	N.T..	Tazin Lake.....	4	59° 00′ to 60° 00′	108° 00′ to 110° 00′	*(b)*
	74-O	N.T..	Fond du Lac.....	4	59° 00′ to 60° 00′	106° 00′ to 108° 00′	*(b)*
	74-P	N.T..	Stony Rapids.....	4	59° 00′ to 60° 00′	104° 00′ to 106° 00′	*(b)*
	268	Sect..	Carlton.....	3	52° 29′ to 53° 12′	106° 00′ to 108° 03′	*(e)*
Alta.....	74-E/SW	N.T..	McKay.....	2	57° 00′ to 57° 30′	111° 00′ to 112° 00′	*(b)*
	74-E/NW	N.T..	Firebag.....	2	57° 30′ to 58° 00′	111° 00′ to 112° 00′	*(b)*
	82-O/NW	N.T..	Barrier Mountain....	2	51° 30′ to 52° 00′	115° 00′ to 116° 00′	*(a)*
	82-O/SW	N.T..	Banff.....	2	51° 00′ to 51° 30′	115° 00′ to 116° 00′	*(a)*
	84-H/NE	N.T..	Ells River.....	2	57° 30′ to 58° 00′	112° 00′ to 113° 00′	*(b)*
	84-H/SE	N.T..	Namur.....	2	57° 00′ to 57° 30′	112° 00′ to 113° 00′	*(b)*
	73-L	N.T..	Lac-la-Biche.....	4	54° 00′ to 55° 00′	110° 00′ to 112° 00′	*(b)*
B.C.....	92-G/2	N.T..	New Westminster...	1	49° 00′ to 49° 15′	122° 30′ to 123° 00′	*(a)*
	92-G/3	N.T..	Fraser Delta.....	1	49° 00′ to 49° 15′	123° 00′ to 123° 30′	*(a)*
	92-G/6	N.T..	Burrard.....	1	49° 15′ to 49° 30′	123° 00′ to 123° 30′	*(a)*
	92-L/1	N.T..	Schoen Lake.....	1	50° 00′ to 50° 15′	126° 00′ to 126° 30′	*(a)*
	92-L/2	N.T..	Woss Lake.....	1	50° 00′ to 50° 15′	126° 30′ to 127° 00′	*(a)*
	92-L/6	N.T..	Alice Lake.....	1	50° 15′ to 50° 30′	127° 00′ to 127° 30′	*(a)*
	92-L/7	N.T..	Nimpkish.....	1	50° 15′ to 50° 30′	126° 30′ to 127° 00′	*(a)*
	92-L/8	N.T..	Adam River.....	1	50° 15′ to 50° 30′	126° 00′ to 126° 30′	*(a)*
	92-L/10	N.T..	Alert Bay.....	1	50° 30′ to 50° 45′	126° 30′ to 127° 00′	*(a)*
	93-A/12	N.T..	Hydraulic.....	1	52° 30′ to 52° 45′	121° 30′ to 122° 00′	*(a)*
	82-L/SW	N.T..	Vernon.....	2	50° 30′ to 51° 00′	119° 00′ to 120° 00′	*(a)*
	92-B/NW	N.T..	Victoria.....	2	48° 30′ to 49° 00′	123° 00′ to 124° 00′	*(a)*
	92-F/NW	N.T..	Comox.....	2	49° 30′ to 50° 00′	121° 00′ to 122° 00′	*(a)*
	92-G/SE	N.T..	Port Moody.....	2	49° 00′ to 49° 30′	122° 00′ to 123° 00′	*(a)*
	92-G/SW	N.T..	Vancouver.....	2	49° 00′ to 49° 30′	123° 00′ to 124° 00′	*(a)*
	92-L/SE	N.T..	Nimpkish Lake.....	2	50° 00′ to 50° 30′	126° 00′ to 127° 00′	*(a)*
	92-L/NW	N.T..	Port Hardy.....	2	50° 30′ to 51° 00′	127° 00′ to 128° 00′	*(b)*
	93-K/SE	N.T..	Fraser Lake.....	2	54° 00′ to 54° 30′	124° 00′ to 125° 00′	*(b)*
	102-I/NE	N.T..	Cape Scott.....	2	50° 30′ to 51° 00′	128° 00′ to 129° 00′	*(b)*

NOTES.—Work performed on those sheets marked "In Hand" ranges throughout the various stages from the commencement of the compilation in the office to the preparation of the final lithographic plates for printing. Some sheets upon which very little work has so far been done are not included in the above list.

Where a map sheet extends into more than one province, it is listed under one province only.

Under the column of "Remarks" the following are the meanings attached to the symbols used:—

(a) National Topographic Series—Standard Edition—Topographical information complete.

(b) National Topographic Series—Provisional Edition—Topographical information complete or nearly so (except for contours), over all or greater portion of sheet.

(c) National Topographic Series—Exploratory Edition—Topographical information from exploration surveys, or where control is inadequate, no contours or contours conjectural only.

(d) Sectional Map Series—New Series Edition—Detailed topographical information in eight colours, including contours.

(e) Sectional Map Series—Intermediate Series Edition—Topographical information in five colours not so complete, contours, when shown, usually approximate only.

(f) Sectional Map Series—Old Series Edition—Generally topography only, in from one to four colours.

LIST OF MISCELLANEOUS MAP SHEETS AND PLANS ISSUED 1934-35 AND IN HAND MARCH 31, 1935—ISSUED 1934-35

Province	Map	Scale (miles to 1 inch)	Remarks
Que.	Index to maps of National Topographic series for Quebec and the Maritime Provinces	50	Revision and one reprint.
	Oskelaneo sheet—4 quarters	1	Advance information.
	Fort Coulonge sheet—4 quarters	1	Advance information.
	Ste. Agathe sheet—4 quarters	1	Advance information.
Ont.	Index to maps of National Topographic series	50	Revision and one reprint.
	Long Lac mining area—2 sheets	2	Preliminary edition.
	Sturgeon River mining area	2	Preliminary edition.
Man.	Riding Mountain Park	3	Reprint.
	Index to maps of National Topographic series for Manitoba and Saskatchewan	50	
Sask.	Clare Beach subdivision	.....	In Prince Albert park.
	Waskesiu Business Blocks subdivision	.....	In Prince Albert park.
	Prince Albert Park	2	Reprint.
Alta.	Index to maps of the National Topographic series in Alberta and British Columbia	35	
	Jasper Park North	3	
B.C.	Reconnaissance map of the Northern Selkirk Mountains and the Big Bend of the Columbia river	4	Reprint.
N.W.T.	Fort Smith Settlement	.....	Reprint.
	Rae Settlement	.....	Reprint.
	Great Bear Lake district	8	Reprint.
	Canada's Eastern Arctic	.....	For the Lands, Northwest Territories and Yukon Branch (two printings).
Misc.	28 township plans	½	19 were reprints.
	North Atlantic Ocean	150	
	North Pacific Ocean	250	
	Index to Standard Geographic Series	.....	Reprint.
	Map showing Lower St. Lawrence Currents	.....	Printed for Hydrographic Survey.
	Clayoquot Chart	.....	Printed for Hydrographic Survey.
	Juan de Fuca Strait Chart	.....	Printed for Hydrographic Survey.
	Index to charts and plans	.....	Printed for Hydrographic Survey.
	Territorial Evolution of Canada	.....	For Bureau of Statistics (two printings).
	Thermodynamic Diagram	.....	For Meteorological Service.
	Southern Saskatchewan base map	.....	For Department of Agriculture.
	Part of British Columbia, Alberta, and Saskatchewan, showing locations of sheep ranches	.....	For Department of Agriculture.
	Map of Manitoba, showing areas likely to be infested with grasshoppers	.....	For Department of Agriculture.
	Tourist map of Canada, eastern sheet	40	
	In hand March 31, 1935		
P.E.I.	Chart of Malpeque bay showing areas for oyster leases	.....	
N.S.	Halifax, N-20-L	1 to 1,000,000	International Map of the World.
N.B.	Map of New Brunswick	10	
Que.	Chicoutimi district	2	
Sask.	Saskatchewan South	12·5	Showing contours.
	Saskatchewan South	16	Revision of 12·5 mile map.
	Moose Jaw-North Battleford	8	Aerial navigation map.
	Medicine Hat, N-12-M	1 to 1,000,000	International Map of the World
Alta.	Jasper Park South	3	
	Map of Alberta	35	
	Edmonton Land Agency map	12·5	For the province of Alberta.
B.C.	Weather map of British Columbia	1 to 10,000,000	For the Meteorological Service.
N.W.T.	Northwest Territories, sheet No. 1	35	
	Cameron Bay	1	
	West Coast, James Bay	.....	
Yukon	Map of Yukon Territory	10	
Misc.	Tourist map of Canada, central section	40	
	Map of Canada	100	
	Tourist map of Canada—General Map	100	
	Daily weather map of Canada	34·1	For the Meteorological Service.

LIST OF MISCELLANEOUS MAP SHEETS AND PLANS ISSUED 1934-35 AND IN HAND MARCH 31, 1935—Issues 1934-35

Province	Map	Scale (miles to 1 inch)	Remarks
Que.	Index to maps of National Topographic series for Quebec and the Maritime Provinces	50	Revision and one reprint.
	Oskelaneo sheet—4 quarters	1	Advance information.
	Fort Coulonge sheet—4 quarters	1	Advance information.
	Ste. Agathe sheet—4 quarters	1	Advance information.
Ont.	Index to maps of National Topographic series	50	Revision and one reprint.
	Long Lac mining area—2 sheets	2	Preliminary edition.
	Steeprock River mining area	2	Preliminary edition.
Man.	Flinflon Mountain Park	2	Reprint.
	Index to maps of National Topographic series for Manitoba and Saskatchewan	50	
Sask.	Clare Beach subdivision	1	In Prince Albert park.
	Waskesiu Business Block subdivision	1	In Prince Albert park.
	Prince Albert Park	2	Reprint.
Alta.	Index to maps of the National Topographic series for Alberta and British Columbia	50	
	Jasper Park North	2	
B.C.	Jasper Park South	2	
	Mosquito Creek mining area	1	Reprint.
N.W.T.	Fort Smith Settlement	2	Reprint.
	Fort Settlement	2	Reprint.
	Great Bear Lake district	2	Reprint.
	Canada's Eastern Arctic	8	For the Lands, Northwest Territories and Yukon (two printings).
Misc.	28 township plans	1	10 were reprints.
	North Atlantic Ocean	120	
	North Pacific Ocean	120	
	Index to standard Geographic Series	1,000	Reprint.
	Map showing Lower St. Lawrence Current	1,000	Printed for Hydrographic Survey.
	Chaysopot Chart	1,000	Printed for Hydrographic Survey.
	Vera de Boca Strait Chart	1,000	Printed for Hydrographic Survey.
	Index to charts and plans	1,000	Printed for Hydrographic Survey.
	Territorial Evolution of Canada	1,000	For Bureau of Statistics (two printings).
	Ferruginous Diagram	50	For Meteorological Service.
	Southern Saskatchewan Lease map	1	For Department of Agriculture.
	Part of British Columbia, Alberta, and Saskatchewan, showing locations of sheep ranches	1	For Department of Agriculture.
	Map of Manitoba, showing areas likely to be in demand with settlers	1	For Department of Agriculture.
	Tourist map of Canada, eastern sheet	40	
P.E.I.	Chart of Malpeque bay showing areas for oyster leases	1	
N.S.	Halifax, N.S.-1	1,000	International Map of the World.
N.B.	Map of New Brunswick	10	
Que.	Cheticamp district	2	
	Saskatchewan South	12·5	Showing counties.
	Saskatchewan South	10	Revision of 12·5 mile map.
	Moose Jaw-North Battleford	8	Aerial navigation map.
	Medicine Hat, N-12-M	1 to 1,000,000	International Map of the World
Alta.	Jasper Park South	2	
	Map of Alberta	25	
	Edmonton Land Agency map	12·5	For the province of Alberta.
B.C.	Weather map of British Columbia	1 to 10,000,000	For the Meteorological Service.
N.W.T.	Northwest Territories, sheet No. 1	25	
	Cameron Bay	1	
	West Coast, James Bay		
Yukon	Map of Yukon Territory	10	
Misc.	Tourist map of Canada, central section	40	
	Map of Canada	100	
	Tourist map of Canada—General Map	100	
	Daily weather map of Canada	24·1	For the Meteorological Service.